

What is claimed is:

1 1. A broadcasting apparatus that broadcasts a specific  
2 program to which a reproduction time period between a starting  
3 time and a finishing time is specified, the reproduction being  
4 performed by a receiving apparatus, the broadcasting apparatus  
5 comprising:

6 allotment means for allotting a broadcasting bandwidth  
7 for the reproduction time period to the specific program and  
8 allotting a part of the broadcasting bandwidth for a preceding  
9 time period immediately before the reproduction time period to  
10 the specific program and the other part of the broadcasting  
11 bandwidth to other program; and

12 transmission means, in accordance with the result of  
13 allotment by the allotment means, for (a) repeatedly  
14 transmitting program data of the other program while  
15 transmitting program data of the specific program in the  
16 preceding time period, and (b) repeatedly transmitting the  
17 program data of the specific program in the reproduction time  
18 period.

1 2. The broadcasting apparatus of Claim 1,  
2 wherein the allotment means sets a starting time of the  
3 preceding time period as a first time and a time included in  
4 between the first time and the starting time of the reproduction  
5 time period as a second time, and

6 the allotment means (a) allots a broadcasting bandwidth  
7 not broader than a predetermined broadcasting bandwidth to the



9 program data for a duration from the second time to the finishing  
10 time of the reproduction time period.

1 5. The broadcasting apparatus of Claim 2, further  
2 comprising:  
3 means for transmitting a cache instruction message before  
4 the starting time of the reproduction time period of the  
5 specific program,  
6 wherein the cache instruction message instructs the  
7 receiving apparatus to cache the received program data of the  
8 specific program.

1 6. The broadcasting apparatus of Claim 2,  
2 wherein the program data of the other programs which is  
3 repeatedly transmitted by the transmission means in the  
4 preceding time period includes an instruction for the receiving  
5 apparatus, when the receiving apparatus receives the program  
6 data of the specific program, to cache the program data.

1 7. The broadcasting apparatus of Claim 2, further  
2 comprising:  
3 means for repeatedly transmitting a cache instruction  
4 message at a time interval that is not longer than a transmission  
5 period of the program data of the specific program before the  
6 starting time of the reproduction time period of the specific  
7 program,  
8 wherein the cache instruction message instructs the

9 receiving apparatus to cache the received program data of the  
10 specific program.

1 8. The broadcasting apparatus of Claim 2, further  
2 comprising:

3 means for transmitting a reproduction instruction  
4 message at the starting time of the reproduction time period  
5 of the specific program,  
6 wherein the reproduction instruction message instructs  
7 the receiving apparatus to reproduce the recorded program data  
8 of the specific program immediately after receiving the  
9 message.

1 9. The broadcasting apparatus of Claim 2, further  
2 comprising:

3 means for transmitting a reproduction instruction  
4 message before the starting time of the reproduction time period  
5 of the specific program,  
6 wherein the reproduction instruction message instructs  
7 the receiving apparatus to reproduce the recorded program data  
8 of the specific program at the starting time of reproduction  
9 time period of the specific program.

1 10. The broadcasting apparatus of Claim 2, further  
2 comprising:

3 means for transmitting a deletion instruction message at  
4 the finishing time of the reproduction time period of the



14 second message transmission means for transmitting a  
15 second message at the starting time of the reproduction time  
16 period of the specific program, wherein the second message  
17 consists of an instruction ID that identifies the reproduction  
18 instruction and a program ID that identifies the program data  
19 of the specific program; and

20           third message transmission means for transmitting a third  
21 message at the finishing time of the reproduction time period  
22 of the specific program, wherein the third message consists of  
23 an instruction ID that identifies the deletion instruction and  
24 a program ID that identifies the program data of the specific  
25 program.

1 13. The broadcasting apparatus of Claim 2, further  
2 comprising:

3       table data transmission means for transmitting table data  
4 before the starting time of the reproduction time period of the  
5 specific program, wherein the table data includes information  
6 on correspondences between instructions to cache, reproduce,  
7 and delete the program data of the specific program and data  
8 IDs for identifying the instructions;

9 first data transmission means for transmitting a first  
10 data before the starting time of the reproduction time period  
11 of the specific program, wherein the first data has a data ID  
12 which identifies the cache instruction as an instruction to be  
13 executed by the receiving apparatus;

14 second data transmission means for transmitting a second



1 16. The broadcasting apparatus of Claim 2,  
2 wherein the allotment means allots a fixed broadcasting  
3 bandwidth to the specific program from the first time to the  
4 second time.

1 17. A broadcasting apparatus that transmits a data  
2 broadcasting program and a first and a second specific programs  
3 which are interposed in the data broadcasting program, the  
4 broadcasting apparatus comprising:

5 allotment means for

6 (a) allotting a broadcasting bandwidth for a first time  
7 period and a second time period to the first specific program  
8 and the second specific program, the first time period and the  
9 second time period are included in a total time period between  
10 a starting time and a finishing time for broadcasting the data  
11 broadcasting program, and

12 (b) allotting a part of the broadcasting bandwidth to the  
13 first and the second specific programs and the other part of  
14 the broadcasting bandwidth to the data broadcasting program for  
15 all of time periods other than the first and the second time  
16 periods in the total time period;

17 instruction generation means for generating a first  
18 storage instruction and a second storage instruction that  
19 instruct the receiving apparatus to store a program data for  
20 the first specific program and a program data for the second  
21 specific program in a storing unit in the receiving apparatus,  
22 respectively, and generating a first reproduction instruction





10 predetermined broadcasting bandwidth to the program data of the  
11 first specific program for a time period other than the first  
12 time period in the total time period, and

13 (d) a broadcasting bandwidth narrower than the  
14 predetermined broadcasting bandwidth to the program data of the  
15 second specific program for a time period other than the second  
16 time period in the total time period.

1 19. The broadcasting apparatus of Claim 17,  
2 wherein the allotment means allots

3 (a) a broadcasting bandwidth not narrower than a  
4 predetermined broadcasting bandwidth to the program data of the  
5 first specific program for the first time period and a time  
6 period immediately before the first time period,

7 (b) a broadcasting bandwidth not narrower than the  
8 predetermined broadcasting bandwidth to the program data of the  
9 second specific program for the second time period and a time  
10 period immediately before the second time period,

11 (c) a broadcasting bandwidth narrower than the  
12 predetermined broadcasting bandwidth to the program data of the  
13 first specific program for a time period other than the first  
14 time period and the time period immediately before the first  
15 time period in the total time period, and

16 (d) a broadcasting bandwidth narrower than the  
17 predetermined broadcasting bandwidth to the program data of the  
18 second specific program for a time period other than the second  
19 time period and the time period immediately before the second

20 time period in the total time period.

1 20. A broadcasting apparatus that transmits a data  
2 broadcasting program and a first and a second specific programs  
3 which are interposed in the data broadcasting program, the  
4 broadcasting apparatus comprising:

5 allotment means for

6 (a) allotting a broadcasting bandwidth for a first time  
7 period and a second time period to the first specific program  
8 and the second specific program, the first time period and the  
9 second time period are included in a total time period between  
10 a starting time and a finishing time for broadcasting the data  
11 broadcasting program, and

12 (b) allotting (1) a broadcasting bandwidth to the data  
13 broadcasting data program in the total time period except for  
14 the first time period and the second time period, (2) a part  
15 of the broadcasting bandwidth to the first specific program for  
16 a time period preceding to the first time period in the total  
17 time period, and (3) a part of the broadcasting bandwidth to  
18 the second specific program for a time period preceding to the  
19 second time period in the total time period;

20 instruction generation means for generating a first  
21 storage instruction and a second storage instruction that  
22 instruct a receiving apparatus to store a program data for the  
23 first specific program and a program data for the second  
24 specific program in a storing unit in the receiving apparatus,  
25 respectively, and generating a first reproduction instruction

26 and a second reproduction instruction that instruct the  
27 receiving apparatus to reproduce the program data for the first  
28 specific program and the program data for the second specific  
29 program, respectively, in case that the program data for the  
30 first specific program and the program data for the second  
31 specific program have been stored in the storing unit;

32 transmission means for repeatedly transmitting the  
33 program data of each of the data broadcasting program, the first  
34 specific program, and the second specific program in accordance  
35 with the result of allotment by the allotment means; and

36 control means for controlling the transmission means so  
37 as to transmit (a) a plurality of the first storage instructions  
38 before the first time period, (b) a plurality of the second  
39 storage instructions before the second time period, (c) the  
40 first reproduction instruction at the starting time of the first  
41 time period, and (d) the second reproduction instruction at the  
42 starting time of the second time period.

1 21. The broadcasting apparatus of Claim 20,

2 wherein the allotment means allots

3 (a) a broadcasting bandwidth not narrower than a  
4 predetermined broadcasting bandwidth to the program data of the  
5 first specific program for the first time period,

6 (b) a broadcasting bandwidth not narrower than the  
7 predetermined broadcasting bandwidth to the program data of the  
8 second specific program for the second time period,

9 (c) a broadcasting bandwidth narrower than the

10 predetermined broadcasting bandwidth to the program data of the  
11 first specific program for a time period preceding to the first  
12 time period in the total time period, and

13 (d) a broadcasting bandwidth narrower than the  
14 predetermined broadcasting bandwidth to the program data of the  
15 second specific program for a time period preceding to the  
16 second time period in the total time period.

1 22. The broadcasting apparatus of Claim 20,  
2 wherein the allotment means allots

3 (a) a broadcasting bandwidth not narrower than a  
4 predetermined broadcasting bandwidth to the program data of the  
5 first specific program for the first time period and a time  
6 period immediately before the first time period,

7 (b) a broadcasting bandwidth not narrower than the  
8 predetermined broadcasting bandwidth to the program data of the  
9 second specific program for the second time period and a time  
10 period immediately before the second time period,

11 (c) a broadcasting bandwidth narrower than the  
12 predetermined broadcasting bandwidth to the program data of the  
13 first specific program for a time period preceding to the first  
14 time period and the immediately preceding period to the first  
15 time period in the total time period, and

(d) a broadcasting bandwidth narrower than the  
predetermined broadcasting bandwidth to the program data of the  
second specific program for a time period preceding to the  
second time period and the immediately preceding period to the

second time period in the total time.

23. A broadcasting apparatus that transmits a program block which is composed of a data broadcasting program and a program or two or more successive programs which are interposed in the data broadcasting program, wherein a reproduction time period between a starting time and a finishing time is specified to each of the data broadcasting program and programs included in the program block and the reproduction is performed by a receiving apparatus, the broadcasting apparatus comprising:  
allotment means for

(a) allotting a broadcasting bandwidth from a first time to the starting time of the reproduction time period of the leading program included in the specific program block to the data broadcasting program and all of the programs included in the specific program block, and

(b) allotting the broadcasting bandwidth for a reproduction time period of each program included in the specific program block to the program and the following programs included in the same program block,

wherein the first time is a time in the reproduction time period of the data broadcasting program and which satisfies a condition so as not to interpose the other program blocks between the first time and the specific program block;

instruction generation means for generating a storage instruction that instructs the receiving apparatus to store a program data of each program included in the specific program

26 block in a storing unit in the receiving apparatus, and  
27 generating a reproduction instruction that instructs the  
28 receiving apparatus to reproduce the program data, in case that  
29 the program data of each program has been stored in the storing  
30 unit;

31 transmission means for repeatedly transmitting the  
32 program data of the data broadcasting program and each program  
33 included in the specific program block in accordance with the  
34 result of allotment by the allotment means; and

35 control means for controlling the transmission means so  
36 as to transmit a plurality of the storage instructions for each  
37 program included in the specific program block before the  
38 starting time of the reproduction time period of the program,  
39 and transmit the reproduction instruction for the program at  
40 the starting time of the reproduction time period of the  
41 program.

1 24. The broadcasting apparatus of Claim 23,  
2 wherein the allotment means allots (a) a broadcasting  
3 bandwidth not narrower than a predetermined broadcasting  
4 bandwidth to each program included in the specific program block  
5 for a reproduction time period of each program, and (b) a  
6 broadcasting bandwidth narrower than the predetermined  
7 broadcasting bandwidth to each program for a time period other  
8 than the reproduction time period.

1 25. The broadcasting apparatus of Claim 23,

2 wherein the allotment means allots (a) a broadcasting  
3 bandwidth not narrower than a predetermined broadcasting  
4 bandwidth to each program included in the specific program block  
5 for a time period between a time immediately before the starting  
6 time of the reproduction time period of the program and the  
7 finishing time of the reproduction time period of the program,  
8 and (b) a broadcasting bandwidth narrower than the  
9 predetermined broadcasting bandwidth to the program for the  
10 other time periods.

1 26. The broadcasting apparatus of Claim 23,  
2 wherein in case that a first program and a second program  
3 which follows the first program are included in the program  
4 block,

5 the allotment means determines a broadcasting bandwidth  
6 which is allocated to each of the first program and the second  
7 program for a first through a third transmission time periods  
8 in the following manner:

9 wherein the first through the third transmission time  
10 periods are time periods which are divided by the first time,  
11 a second time, the finishing time of the reproduction time  
12 period of the first program, and the finishing time of the  
13 reproduction time period of the second program in the stated  
14 order,

15 wherein the second time is a time for the reproduction  
16 time period of the data broadcasting program,

17 the allotment means allots (a) a broadcasting bandwidth





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16 period of the data broadcasting program, and the third time is  
17 a time in the reproduction time period of the first program,  
18 the allotment means allots

19 (a) a broadcasting bandwidth not broader than a  
20 predetermined broadcasting bandwidth to the first and the  
21 second programs for the first transmission time period,

22 (b) a broadcasting bandwidth broader than the  
23 predetermined broadcasting bandwidth to the first program and  
24 a broadcasting bandwidth not broader than the predetermined  
25 broadcasting bandwidth to the second program for the second  
26 transmission period,

27 (c) a broadcasting bandwidth broader than the  
28 predetermined broadcasting bandwidth to the first program and  
29 a broadcasting bandwidth broader than the predetermined  
30 broadcasting bandwidth to the second program for the third  
31 transmission time period, and

32 (d) a broadcasting bandwidth broader than the  
33 predetermined broadcasting bandwidth to the second program for  
34 the fourth transmission time period.

1 28. A broadcasting method for broadcasting a specific program  
2 to which a reproduction time period between a starting time and  
3 a finishing time is specified, the reproduction being performed  
4 by a receiving apparatus, the broadcasting method comprising  
5 the steps of:

6 an allotment step for allotting a broadcasting bandwidth  
7 for the reproduction time period to the specific program and

8 allotting a part of the broadcasting bandwidth for a preceding  
9 time period immediately before the reproduction time period to  
10 the specific program and the other part of the broadcasting  
11 bandwidth to other program; and

12 a transmission step, in accordance with the result of  
13 allotment in the allotment step, for (a) repeatedly transmitting  
14 program data of the other program while transmitting program  
15 data of the specific program in the preceding time period, and  
16 (b) repeatedly transmitting the program data of the specific  
17 program in the reproduction time period.

1 29. A broadcasting method for transmitting a data  
2 broadcasting program and a first specific program and a second  
3 specific program which are interposed in the data broadcasting  
4 program, the broadcasting method comprising the steps of:

5 an allotment step for

6 (a) allotting a broadcasting bandwidth for a first time  
7 period and a second time period to the first specific program  
8 and the second specific program, the first time period and the  
9 second time period are included in a total time period between  
10 a starting time and a finishing time for broadcasting the data  
11 broadcasting program, and

12 (b) allotting a part of the broadcasting bandwidth to the  
13 first and the second specific programs and the other part of  
14 the broadcasting bandwidth to the data broadcasting program for  
15 all of time periods other than the first and the second time  
16 periods in the total time period;

17 an instruction generation step for generating a first  
18 storage instruction and a second storage instruction that  
19 instruct the receiving apparatus to store a program data for  
20 the first specific program and a program data for the second  
21 specific program in a storing unit in the receiving apparatus,  
22 respectively, and generating a first reproduction instruction  
23 and a second reproduction instruction that instruct a receiving  
24 apparatus to reproduce the program data for the first specific  
25 program and the program data for the second specific program,  
26 respectively, in case that the program data for the first  
27 specific program and the program data for the second specific  
28 program have been stored in the storing unit; and

29 a transmission step for transmitting (a) a plurality of  
30 the first storage instructions before the first time period,  
31 (b) the first reproduction instruction at the starting time of  
32 the first time period, (c) a plurality of the second storage  
33 instructions before the second time period, and (d) the second  
34 reproduction instruction at the starting time of the second time  
35 period, while repeatedly transmitting the program data of each  
36 of the data broadcasting program, the first specific program,  
37 and the second specific program in accordance with the result  
38 of allotment in the allotment step.

1 30. A broadcasting method for transmitting a data  
2 broadcasting program and a first specific program and a second  
3 specific program which are interposed in the data broadcasting  
4 program, the broadcasting method comprising the steps of:



32 a transmission step for transmitting (a) a plurality of  
33 the first storage instructions before the first time period,  
34 (b) a plurality of the second storage instructions before the  
35 second time period, (c) the first reproduction instruction at  
36 the starting time of the first time period, and (d) the second  
37 reproduction instruction at the starting time of the second time  
38 period, while repeatedly transmitting the program data of each  
39 of the data broadcasting program, the first specific program,  
40 and the second specific program in accordance with the result  
41 of allotment in the allotment step.

1 31. A broadcasting method for transmitting a program block  
2 which is composed of a data broadcasting program and a program  
3 or two or more successive programs which are interposed in the  
4 data broadcasting program, wherein a reproduction time period  
5 between a starting time and a finishing time is specified to  
6 each of the data broadcasting program and programs included in  
7 the program block, the broadcasting method comprising the steps  
8 of:

9 an allotment step for

10 (a) allotting a broadcasting bandwidth from a first time  
11 to the starting time of the reproduction time period of the  
12 leading program included in the specific program block to the  
13 data broadcasting program and all of the programs included in  
14 the specific program block, and

15 (b) allotting the broadcasting bandwidth for a  
16 reproduction time period of each program included in the



4 time period between a starting time and finishing time is  
 5 specified, the reproduction being performed by a receiving  
 6 apparatus, the computer program embodied on the program  
 7 recording medium has the computer conduct the steps of:  
 8 an allotment step for allotting a broadcasting bandwidth  
 9 for the reproduction time period to the specific program and  
 10 allotting a part of the broadcasting bandwidth for a preceding  
 11 time period immediately before the reproduction time period to  
 12 the specific program and the other part of the broadcasting  
 13 bandwidth to other program; and  
 14 a transmission step, in accordance with the result of allotment  
 15 in the allotment step, for (a) repeatedly transmitting program  
 16 data of the other program while transmitting program data of  
 17 the specific program in the preceding time period, and (b)  
 18 repeatedly transmitting the program data of the specific  
 19 program in the reproduction time period.

1 33. A program recording medium which is readable for a  
 2 computer in a broadcasting apparatus, the broadcasting  
 3 apparatus transmits a data broadcasting program and a first and  
 4 a second specific programs which are interposed in the data  
 5 broadcasting program, the computer program embodied on the  
 6 program recording medium has the computer conduct the steps of:  
 7 an allotment step for  
 8 (a) allotting a broadcasting bandwidth for a first time  
 9 period and a second time period to the first specific program  
 10 and the second specific program, the first time period and the



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11 second time period are included in a total time period between  
12 a starting time and a finishing time for broadcasting the data  
13 broadcasting program, and

14 (b) allotting a part of the broadcasting bandwidth to the  
15 first and the second specific programs and the other part of  
16 the broadcasting bandwidth to the data broadcasting program for  
17 all of time periods other than the first and the second time  
18 periods in the total time period;

19 an instruction generation step for generating a first  
20 storage instruction and a second storage instruction that  
21 instruct the receiving apparatus to store a program data for  
22 the first specific program and a program data for the second  
23 specific program in a storing unit in the receiving apparatus,  
24 respectively, and generating a first reproduction instruction  
25 and a second reproduction instruction that instruct a receiving  
26 apparatus to reproduce the program data for the first specific  
27 program and the program data for the second specific program,  
28 respectively, in case that the program data for the first  
29 specific program and the program data for the second specific  
30 program have been stored in the storing unit; and

31 a transmission step for transmitting (a) a plurality of  
32 the first storage instructions before the first time period,  
33 (b) the first reproduction instruction at the starting time of  
34 the first time period, (c) a plurality of the second storage  
35 instructions before the second time period, and (d) the second  
36 reproduction instruction at the starting time of the second time  
37 period, while repeatedly transmitting the program data of each



24 instruct a receiving apparatus to store a program data for the  
25 first specific program and a program data for the second  
26 specific program in a storing unit in the receiving apparatus,  
27 respectively, and generating a first reproduction instruction  
28 and a second reproduction instruction that instruct the  
29 receiving apparatus to reproduce the program data for the first  
30 specific program and the program data for the second specific  
31 program, respectively, in case that the program data for the  
32 first specific program and the program data for the second  
33 specific program have been stored in the storing unit; and  
34 a transmission step for transmitting (a) a plurality of  
35 the first storage instructions before the first time period,  
36 (b) a plurality of the second storage instructions before the  
37 second time period, (c) the first reproduction instruction at  
38 the starting time of the first time period, and (d) the second  
39 reproduction instruction at the starting time of the second time  
40 period, while repeatedly transmitting the program data of each  
41 of the data broadcasting program, the first specific program,  
42 and the second specific program in accordance with the result  
43 of allotment in the allotment step.

1 35. A program recording medium which is readable for a  
2 computer in a broadcasting apparatus, the broadcasting  
3 apparatus transmits a program block which is composed of a data  
4 broadcasting program and a program or two or more successive  
5 programs which are interposed in the data broadcasting program,  
6 wherein a reproduction time period between a starting time and





37. A program that is readable for a computer in a broadcasting apparatus, the broadcasting apparatus transmits a data broadcasting program and a first and a second specific programs which are interposed in the data broadcasting program, the program has the computer conduct the steps of:

an allotment step for

(a) allotting a broadcasting bandwidth for a first time period and a second time period to the first specific program and the second specific program, the first time period and the second time period are included in a total time period between a starting time and a finishing time for broadcasting the data broadcasting program, and

(b) allotting a part of the broadcasting bandwidth to the first and the second specific programs and the other part of the broadcasting bandwidth to the data broadcasting program for all of time periods other than the first and the second time periods in the total time period;

an instruction generation step for generating a first storage instruction and a second storage instruction that instruct the receiving apparatus to store a program data for the first specific program and a program data for the second specific program in a storing unit in the receiving apparatus, respectively, and generating a first reproduction instruction and a second reproduction instruction that instruct a receiving apparatus to reproduce the program data for the first specific program and the program data for the second specific program,

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27 respectively, in case that the program data for the first  
28 specific program and the program data for the second specific  
29 program have been stored in the storing unit; and

30 a transmission step for transmitting (a) a plurality of  
31 the first storage instructions before the first time period,  
32 (b) the first reproduction instruction at the starting time of  
33 the first time period, (c) a plurality of the second storage  
34 instructions before the second time period, and (d) the second  
35 reproduction instruction at the starting time of the second time  
36 period, while repeatedly transmitting the program data of each  
37 of the data broadcasting program, the first specific program,  
38 and the second specific program in accordance with the result  
39 of allotment in the allotment step.

1 38. A program that is readable for a computer in a broadcasting  
2 apparatus, the broadcasting apparatus transmits a data  
3 broadcasting program and a first and a second specific programs  
4 which are interposed in the data broadcasting program, the  
5 program has the computer conduct the steps of:

6 an allotment step for

7 (a) allotting a broadcasting bandwidth for a first time  
8 period and a second time period to the first specific program  
9 and the second specific program, the first time period and the  
10 second time period are included in a total time period between  
11 a starting time and a finishing time for broadcasting the data  
12 broadcasting program, and

13 (b) allotting (1) a broadcasting bandwidth to the data





41 and the second specific program in accordance with the result  
42 of allotment in the allotment step.

1 39. A program that is readable for a computer in a broadcasting  
2 apparatus, the broadcasting apparatus transmits a program block  
3 which is composed of a data broadcasting program and a program  
4 or two or more successive programs which are interposed in the  
5 data broadcasting program, wherein a reproduction time period  
6 between a starting time and a finishing time is specified to  
7 each of the data broadcasting program and programs included in  
8 the program block, the program has the computer conduct the  
9 steps of:

10 an allotment step for

11 (a) allotting a broadcasting bandwidth from a first time  
12 to the starting time of the reproduction time period of the  
13 leading program included in the specific program block to the  
14 data broadcasting program and all of the programs included in  
15 the specific program block, and

16 (b) allotting the broadcasting bandwidth for a  
17 reproduction time period of each program included in the  
18 specific program block to the program and the following programs  
19 included in the same program block,

20 wherein the first time is a time in the reproduction time  
21 period of the data broadcasting program and which satisfies a  
22 condition so as not to interpose the other program blocks  
23 between the first time and the specific program block;

24 an instruction generation step for generating a storage

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25 instruction that instructs the receiving apparatus to store a  
26 program data of each program included in the specific program  
27 block in a storing unit in the receiving apparatus, and  
28 generating a reproduction instruction that instructs the  
29 receiving apparatus to reproduce the program data, in case that  
30 the program data of each program has been stored in the storing  
31 unit;

32 a transmission step for transmitting a plurality of the  
33 storage instructions for each program included in the specific  
34 program block before the starting time of the reproduction time  
35 period of the program, and transmitting the reproduction  
36 instruction for the program at the starting time of the  
37 reproduction time period of the program, while repeatedly  
38 transmitting the program data of the data broadcasting program  
39 and each program included in the specific program block in  
40 accordance with the result of allotment in the allotment step.